AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (original): A method of operating a wireless communications device, comprising:

maintaining a first set of queue information indicating for each of a plurality of different transmission priority levels a number of data units to be transmitted; and

periodically generating a group of transmission requests over time as a function of said maintained queue information, said group of transmission requests including:

a first transmission request specifying an absolute number of data units to be transmitted for a first one of said plurality of different transmission priority levels.

Claim 2 (original): The method of claim 1, wherein said group of transmission requests further includes:

a second transmission request.

Claim 3 (currently amended): The method of claim 2, wherein said first transmission request is located at a pre-selected position within said group of requests, said step of generating said group of requests including:

incorporating in the first transmission request, as said absolute number, a number of data units to be transmitted corresponding to the highest transmission priority level having a non-zero number of data units to be transmitted, as indicated by said set of queue information.

Claim 4 (currently amended): The method of claim 3, wherein generating said group of transmission requests includes:

incorporating a second number of data units to be transmitted corresponding to another transmission priority level, into said first transmission request.

Claim 5 (original): The method of claim 2, further comprising:

maintaining a second set of queue information indicating for each of said plurality of different transmission priority levels an estimate of a base station's estimate of the first set of queue information maintained by said wireless communications device.

Claim 6 (currently amended): The method of claim 2, wherein said second transmission request includes a relative value indicating a relative number of data units corresponding to one of said plurality of different transmission priority levels to be transmitted.

Claim 7 (original): The method of claim 6, wherein said relative value is relative to an estimate of a base station estimate of a value in the first queue information maintained by said wireless communications device.

Claim 8 (currently amended): The method of claim 5, wherein said second transmission request includes a relative value indicating a relative number of data units corresponding to one of said plurality of different transmission priority levels to be transmitted.

Claim 9 (currently amended): The method of claim 8, wherein said relative value is generated as a function of a difference between the number of data units in the first and second sets of queue information corresponding ~~queues~~

~~correspond~~ to said one of said plurality of different transmission priority levels.

Claim 10 (currently amended): The method of claim 9, wherein said absolute value is generated using a first quantization table; and

wherein said relative value is generated using a different quantization table including a different number of quantization levels than said first quantization table.

Claim 11 (currently amended): The method of claim 5, wherein said wireless terminal determines the priority level for which ~~said~~ data unit information is to be included in at least one of said first and second transmission requests as a function of values included in both said first and second sets of queue information ~~queues~~.

Claim 12 (currently amended): The method of claim 6, wherein said group of transmission requests includes more requests including relative values than requests including absolute numbers of data units to be transmitted for one of said plurality of different transmission priority levels.

Claim 13 (currently amended): The method of claim 1, wherein the first and second transmission requests include different numbers of bits, the first transmission request including at least twice the number of bits as ~~the~~ a second transmission request which follows said first transmission request ~~message~~.

Claim 14 (currently amended): The method of claim 1, wherein each group of transmission requests includes at least three requests, the method further comprising:

transmitting each group of requests in a time period less than 98 milli-seconds in duration.

Claim 15 (currently amended): The method of claim 1, further comprising:

transmitting a ~~said~~ first transmission request to a base station at a first point in time;

discarding data corresponding to said first one of said plurality of different transmission priority levels prior to receiving a signal indicating that said first transmission request was granted;

updating said first set of queue information to reflect the discarding of data corresponding to the first one of said plurality of different transmission priority levels; and

transmitting said second transmission request at a second point in time, said second point in time following said updating of said first set of queue information to reflect the discarding of data.

Claim 16 (currently amended): A wireless communications device, comprising:

a first set of queue information indicating for each of a plurality of different transmission priority levels a number of data units to be transmitted; and

means for periodically generating a group of transmission requests over time as a function of said ~~maintained~~ first set of queue information, said group of transmission requests including:

i) a first transmission request specifying an absolute number of data units to be transmitted for a first one of said plurality of different transmission priority levels; and

ii) a second transmission request.

Claim 17 (currently amended): The wireless communications device of claim 16, wherein said first transmission request is located at a pre-selected position within said group of transmission requests, said means for periodically generating a group of transmission requests including:

means for incorporating in the first transmission request, as said absolute number, the number of data units to be transmitted corresponding to the highest transmission priority level having a non-zero number of data units to be transmitted as indicated by said set of queue information.

Claim 18 (currently amended): The wireless communications device of claim 16, wherein said means for periodically generating said group of transmission requests further includes:

means for incorporating a second number of data units to be transmitted corresponding to another transmission priority level into said first transmission request.

Claim 19 (currently amended): The wireless communications device of claim 16, further comprising:

a second set of queue information indicating for each of said plurality of different transmission priority levels an estimate of a base station's estimate of the first set of queue information maintained by said wireless communications device.

Claim 20 (currently amended): The wireless communications device of claim 19, further comprising:

memory for storing said first and second transmission requests prior to transmission, said second transmission request including a relative value indicating a relative number of data units corresponding to one of said plurality

of different transmission priority levels to be transmitted.

Claim 21 (currently amended): The wireless communications device of claim 20, wherein said relative value is relative to a number of data units in said second set of queue information corresponding to said one of said plurality of different transmission priority levels.

Claim 22 (currently amended): The wireless communications device of claim 19, further comprising:

memory for storing said second transmission request, said second transmission request including a relative value indicating a relative number of data units corresponding to one of said plurality of different transmission priority levels to be transmitted.

Claim 23 (currently amended): The wireless communications device of claim 22, wherein said means for periodically generating a group of transmission requests generates said relative value as a function of a difference between the number of data units in the first and second queues correspond to said one of said plurality of different transmission priority levels.

Claim 24 (currently amended): The wireless communications device of claim 23, further comprising

a first quantization table used to generate said absolute value; and

a second quantization table including a different number of quantization levels than said first quantization table, said second quantization table being used to generate said relative value.

Claim 25 (currently amended): The wireless communications device of claim 19, wherein said wireless terminal includes means for determining the transmission priority level for which said data unit information is to be included in one of said first and second transmission requests as a function of the values included in both said first and second sets of queue information ~~queues~~.

Claim 26 (currently amended): The wireless communications device of claim 20, wherein said group of transmission requests includes more transmission requests including relative values than transmission requests including absolute values.

Claim 27 (currently amended): The wireless communications device of claim 16, wherein the first and second transmission requests include different numbers of bits, the first transmission request including at least twice the number of bits as ~~the~~ a second transmission request which follows said first transmission request ~~message~~.

Claim 28 (currently amended): A method of operating a base station to allocate uplink channel communications resources in a multiple access system where multiple wireless terminals can request uplink channel communication resources from said base station, the method comprising;

maintaining a set of queue information indicating, for each wireless terminal requesting data units which have not yet been allocated as requested, the requested number of data units for each priority level for which an unsatisfied data unit request was received;

monitoring to receive uplink channel resource requests from any one of said wireless terminals;

in response to a received resource allocation request including at least one of an absolute number of requested data units and a relative number of requested data units corresponding to one of ~~said~~ a plurality of different transmission priority levels,

i) performing a queue information update operation; and

ii) allocating uplink channel resources as a function of the updated queue information.

Claim 29 (currently amended): The method of claim 28, wherein updating said queue information includes generating updated requested numbers of data units for said one of said plurality of different transmission priority levels as a function of L most recent assignments made by said base station where L is a known value at the time said request is received, L being a positive integer.

Claim 30 (currently amended): The method of claim 29, wherein said step of generating updated requested numbers of data units as a function of the most recent L assignments includes accessing memory storing assignment information as a vector including a mobile node identifier, a plurality of transmission priority levels and, for each transmission priority level, an assigned number of data units.

Claim 31 (currently amended): The method of claim 29, wherein updating said queue information includes replacing a number of data units, corresponding to one of said plurality of different transmission priority levels, in said set of queue information with a requested number of data units corresponding to said one of said plurality of different transmission priority levels, said requested

number of data units being an absolute value communicated by said received request.

Claim 32 (currently amended): The method of claim 31, further comprising:

setting the ~~numbers~~ number of data units corresponding to transmission priority levels which have a higher transmission priority than said one of said plurality of different transmission priority levels to zero.

Claim 33 (currently amended): The method of claim 29, wherein updating said queue information includes adding to the number of data units corresponding to one of said plurality of different transmission priority levels in said set of queue information with the requested number of data units specified in the received request.

Claim 34 (original): The method of claim 29, wherein updating said queue information includes subtracting at least some numbers of assigned data units in the L assignments to values included in said set of queue information.

Claim 35 (original): The method of claim 29, wherein updating said queue information includes adding at least some numbers of assigned data units in the L assignments to values included in said set of queue information.

Claim 36 (currently amended): A base station for allocating uplink channel communications resources in a multiple access system where multiple wireless terminals can request uplink channel communication resources from said base station, the base station comprising;

a set of queue information indicating, for each wireless terminal requesting data units which have not yet been allocated as requested, the requested number of data units for each priority level for which an unsatisfied data unit request was received;

a receiver for receiving uplink channel resource requests from any one of said wireless terminals;

a module for performing a queue information update operation in response to a received resource allocation request including at least one of an absolute number of requested data units and a relative number of requested data units corresponding to one of ~~said~~ a plurality of different transmission priority levels; and

~~means~~ an uplink resource allocation module for allocating uplink channel resources as a function of the updated queue information and said received resource allocation request.

Claim 37 (currently amended): The base station of claim 36, wherein said module for performing a queue information update operation includes:

means for generating updated requested numbers of data units for said one of said plurality of different transmission priority levels as a function of L most recent assignments made by said base station where L is a known value at the time said request is received.

Claim 38 (currently amended): The base station of claim 37, wherein said module for performing a queue update operation further includes:

means for replacing a requested number of data units, corresponding to one of said plurality of different transmission priority levels, in said set of queue information with a requested number of data units

corresponding to said one of said plurality of different transmission priority levels, said requested number of data units being an absolute value communicated by said received request.

Claim 39 (currently amended): The base station of claim 38, wherein said module for performing a queue update operation further includes:

means for setting requested numbers of data units corresponding to priority levels which have a higher priority than said one of said plurality of different transmission priority levels to zero.

Claim 40 (currently amended): The base station of claim 37, wherein said module for performing a queue update operation further includes:

means of adding a requested number of data units corresponding to one of said plurality of different transmission priority levels in said set of queue information with a requested number of data units specified in the received request.

Claim 41 (new): An apparatus comprising:

a processor configured to implement a communications method, the method comprising:

maintaining a first set of queue information indicating for each of a plurality of different transmission priority levels a number of data units to be transmitted; and

periodically generating a group of transmission requests over time as a function of said maintained queue information, said group of transmission requests including:

a first transmission request specifying an absolute number of data units to be transmitted for a first one of said plurality of different transmission priority levels.

Claim 42 (new): The apparatus of claim 41, wherein said group of transmission requests further includes:
a second transmission request.

Claim 43 (new): The apparatus of claim 42, wherein said first transmission request is located at a pre-selected position within said group of requests, the step of generating said group of requests further including:
incorporating in the first transmission request, as said absolute number, a number of data units to be transmitted corresponding to the highest transmission priority level having a non-zero number of data units to be transmitted, as indicated by said set of queue information.

Claim 44 (new): A computer readable medium embodying machine executable instructions for controlling a communications device to implement a method, the method comprising:
maintaining a first set of queue information indicating for each of a plurality of different transmission priority levels a number of data units to be transmitted; and
periodically generating a group of transmission requests over time as a function of said maintained queue information, said group of transmission requests including:
a first transmission request specifying an absolute number of data units to be transmitted for a first one of said plurality of different transmission priority levels.

Claim 45 (new): The machine readable medium of claim 44, wherein said group of transmission requests further includes:

a second transmission request.

Claim 46 (new): The machine readable medium of claim 45, wherein said first transmission request is located at a pre-selected position within said group of requests, the step of generating said group of requests further including:

incorporating in the first transmission request, as said absolute number, a number of data units to be transmitted corresponding to the highest transmission priority level having a non-zero number of data units to be transmitted, as indicated by said set of queue information.

Claim 47 (new): A wireless communications device, comprising:

a memory device including a first set of queue information indicating for each of a plurality of different transmission priority levels a number of data units to be transmitted; and

a transmission request generation module for periodically generating a group of transmission requests over time as a function of said first set of queue information, said group of transmission requests including:

i) a first transmission request specifying an absolute number of data units to be transmitted for a first one of said plurality of different transmission priority levels; and

ii) a second transmission request.

Claim 48 (new): The wireless communications device of claim 47, wherein said first transmission request is

located at a pre-selected position within said group of transmission requests, said transmission request generation module for periodically generating a group of transmission requests including:

a module for incorporating in the first transmission request, as said absolute number, the number of data units to be transmitted corresponding to the highest transmission priority level having a non-zero number of data units to be transmitted as indicated by said set of queue information.

Claim 49 (new): An apparatus comprising:

a processor configured to control a base station to implement a method of allocating uplink channel communications resources in a multiple access system where multiple wireless terminals can request uplink channel communication resources from said base station, the method comprising:

maintaining a set of queue information indicating, for each wireless terminal requesting data units which have not yet been allocated as requested, the requested number of data units for each priority level for which an unsatisfied data unit request was received;

monitoring to receive uplink channel resource requests from any one of said wireless terminals;

in response to a received resource allocation request including at least one of an absolute number of requested data units and a relative number of requested data units corresponding to one of a plurality of different transmission priority levels,

i) performing a queue information update operation; and

ii) allocating uplink channel resources as a function of the updated queue information.

Claim 50 (new): The apparatus of claim 49,

wherein updating said queue information includes generating updated requested numbers of data units for said one of said plurality of different transmission priority levels as a function of L most recent assignments made by said base station where L is a known value at the time said request is received, L being a positive integer.

Claim 51 (new): The apparatus of claim 50, wherein said step of generating updated requested numbers of data units as a function of the most recent L assignments includes accessing memory storing assignment information as a vector including a mobile node identifier, a plurality of transmission priority levels and, for each transmission priority level, an assigned number of data units.

Claim 52 (new): A computer readable medium embodying machine executable instructions for controlling a base station to implement a method of allocating uplink channel communications resources in a multiple access system where multiple wireless terminals can request uplink channel communication resources from said base station, the method comprising:

maintaining a set of queue information indicating, for each wireless terminal requesting data units which have not yet been allocated as requested, the requested number of data units for each priority level for which an unsatisfied data unit request was received;

monitoring to receive uplink channel resource requests from any one of said wireless terminals;

in response to a received resource allocation request including at least one of an absolute number of requested data units and a relative number of requested data units

corresponding to one of a plurality of different transmission priority levels,

i) performing a queue information update operation; and

ii) allocating uplink channel resources as a function of the updated queue information.

Claim 53 (new): The computer readable medium of claim 52, wherein updating said queue information includes generating updated requested numbers of data units for said one of said plurality of different transmission priority levels as a function of L most recent assignments made by said base station where L is a known value at the time said request is received, L being a positive integer.

Claim 54 (new): The computer readable medium of claim 53, wherein said step of generating updated requested numbers of data units as a function of the most recent L assignments includes accessing memory storing assignment information as a vector including a mobile node identifier, a plurality of transmission priority levels and, for each transmission priority level, an assigned number of data units.

Claim 55 (new): A base station for allocating uplink channel communications resources in a multiple access system where multiple wireless terminals can request uplink channel communication resources from said base station, the base station comprising;

information storage means for storing a set of queue information indicating, for each wireless terminal requesting data units which have not yet been allocated as requested, the requested number of data units for each

priority level for which an unsatisfied data unit request was received;

receiver means for receiving uplink channel resource requests from any one of said wireless terminals;

means for performing a queue information update operation in response to a received resource allocation request including at least one of an absolute number of requested data units and a relative number of requested data units corresponding to one of a plurality of different transmission priority levels; and

means for allocating uplink channel resources as a function of the updated queue information and said received resource allocation request.

Claim 56 (new): The method of claim 2, further comprising:

incorporating a second number of data units to be transmitted, corresponding to a second one of said plurality of different transmission priority levels, into said first transmission request; and

wherein said second transmission request includes a relative value indicating a relative number of data units corresponding to one of said plurality of different transmission priority levels to be transmitted.